Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001

Memorandum

To: Distribution

From: Mark Wissinger, P.E.,
Construction Engineer

Date: July 28, 2003

Subject: Aggregate Treatment

As indicated in the memo from Joel Marshik, please delete the MC-70 prime material from all contracts and add dust palliative and tack for the aggregate treatment. The application rates and information necessary to determine quantities is illustrated on the attached examples. Projects with MC-70 in the July and August lettings can be adjusted during construction.

At this time, do not include blotter material in the plans unless requested by the District Construction Engineer. In most instances, traffic will not be placed on the tacked aggregate before paving. On those occasions where there is a need for it, construction will utilize some natural fines, or other common material.

While this combination of materials for an aggregate treatment has been found successful, it is our intent that this will be an interim solution. Construction personnel will need to evaluate each gravel section on a project-by-project basis to properly utilize these materials.

In addition to the changes for the aggregate treatment, the application rates for tack have been revised to reflect undiluted rates. It has been found that the application rate shown in the basis of plan quantities is the same as the application rate used by construction. Since the payment for tack is by the undiluted liter and the application rate being used is a diluted rate, the plan quantities have been approximately double those used in construction.

If you would like additional information please contact me at 444-6008 or Lisa Durbin at 444-0453.

MAW:ld

attachment

copies: District Administrators
District Construction Engineers
James Walther, P.E.
Carl Peil, P.E.
Paul Ferry, P.E.
Ron Williams, P.E.
Tom Martin, P.E.
Mark Wissinger, P.E.
Kent Barnes, P.E.

BASIS OF PLAN QUANTITIES

(QUANTITIES FOR ESTIMATING PURPOSES ONLY)

COMP. AGGREGATE WEIGHT = 2200 kilograms per cubic meter
COMP. WEIGHT OF PL. MIX BIT. SURF. = 2287 kilograms per cubic meter
ASPHALT CEMENT = 6.0% OF PL. MIX BIT. SURF.
~~HYDRATED LIME = 1.4% OF PL. MIX BIT. SURF.~~
BITUMINOUS MATERIAL = 1.02 kilograms per liter
DUST PALLIATIVE = 1.3 kilograms per liter
AGGREGATE TREATMENT
DUST PALLIATIVE = 1.4 liters per square meter
AGG. TACK = 0.23 liters per square meter (UNDILUTED)
TACK = 0.12 liters per square meter (UNDILUTED)
SEAL = 1.8 liters per square meter
COVER = 14.0 kilograms per square meter

APPROACHES

CONSTRUCT APPROACHES TO A 7.2 m FINISHED TOP ON A 10.6 m SUBGRADE UNLESS NOTED OTHERWISE IN THE PLANS.

PROVIDE THE FOLLOWING SURFACING:
60 mm PLANT MIX BITUMINOUS SURF.
190 mm CRUSHED AGG. COURSE

PLANT MIX SURFACE ALL PUBLIC APPROACHES TO R/W.

QUANTITIES FOR ONE PUBLIC APPROACH:

AVERAGE LENGTH	=	meters
PLANT MIX BITUMINOUS SURF.	=	tons
CRUSHED AGG. COURSE	=	cubic meters
ASPHALT CEMENT	=	tons
DUST PALLIATIVE	=	tons
AGG. TACK	=	liters

PLANT MIX SURFACE ALL PRIVATE APPROACHES TO R/W.

QUANTITIES FOR ONE PRIVATE APPROACH:

AVERAGE LENGTH	=	meters
PLANT MIX BITUMINOUS SURF.	=	tons
CRUSHED AGG. COURSE	=	cubic meters
ASPHALT CEMENT	=	tons

GRAVEL SURFACE ALL FARM FIELD APPROACHES TO R/W WITH A 3.6 m WIDE PLANT MIX STRIP ADJACENT AND PARALLEL TO THE ROADWAY.

QUANTITIES FOR ONE FARM FIELD APPROACH:

AVERAGE LENGTH	=	meters
PLANT MIX BITUMINOUS SURF.	=	tons
CRUSHED AGG. COURSE	=	cubic meters
ASPHALT CEMENT	=	tons

ADDITIONAL SURFACING (INCLUDED IN SURFACING FRAME)

tons	AGGREGATE						BITUMINOUS MATERIAL			AGG. TREATMENT	
	tons		cubic meters				tons		liters	tons	liters
HYDRATED LIME	COVER GRADE --	PLANT MIX BIT. SURF. GRADE _	CR. TOP SURFACING TY._ GR.	CR. BASE COURSE TY._ GR.	CRUSHED AGG. COURSE	TRAFFIC GRAVEL	ASPHALT CEMENT PG __-__	SEAL CRS-___	TACK SS-1	DUST PALLIATIVE	AGG. TACK SS-1
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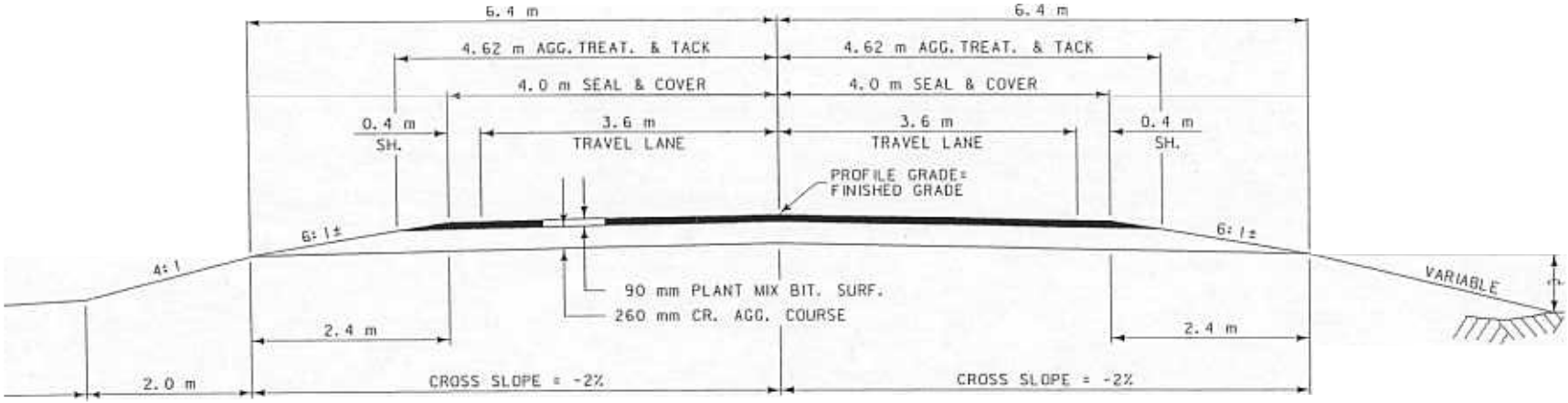

QUANTITIES

UNIT	AGGREGATE					UNIT	BITUMINOUS MATERIAL			AGG. TREAT.	
	COVER	PLANT MIX	CR. AGG. COURSE				ASPHALT CEMENT	SEAL	TACK	DUST PALLIATIVE	AGG. TACK
AREA square meters		.776	2.865			square meters PER STATION		800	924	924	924
cubic meters PER STATION		77.60	286.5			tons PER STATION	10.65	1.47		1.68	
tons PER STATION	11.2	177.5				liters PER STATION			111		213